

SECTION

# 8

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## **Post-acute care**

**Skilled nursing facilities**

**Home health services**

**Inpatient rehabilitation facilities**

**Long-term care hospitals**

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**Chart 8-1. Number of post-acute care providers remained stable in 2017**

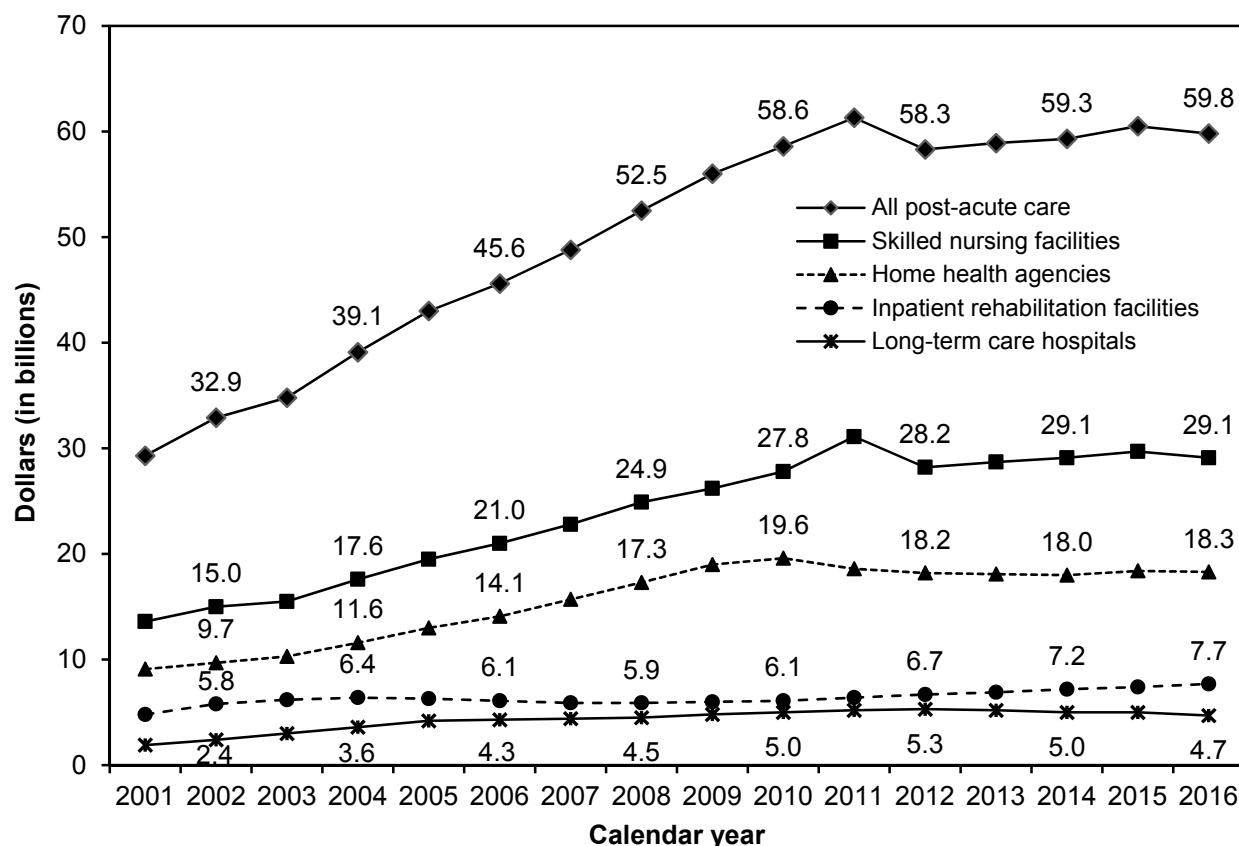
	2013	2014	2015	2016	2017	Average annual percent change 2013–2017	Percent change 2016–2017
Home health agencies	12,613	12,461	12,346	12,204	11,844	–1.6%	–3.0%
Inpatient rehabilitation facilities	1,161	1,177	1,182	1,188	1,178	0.4	–0.8
Long-term care hospitals	432	422	426	423	411	–1.2	–2.8
Skilled nursing facilities	15,163	15,173	15,223	15,263	15,277	0.2	0.1

Note: The skilled nursing facility count does not include swing beds.

Source: MedPAC analysis of data from the Provider of Services files from CMS.

- The number of home health agencies has been declining since 2013 after several years of substantial growth. The decline in agencies was concentrated in Texas and Florida, two states that saw considerable growth following the implementation of the prospective payment system in October 2000.
- The supply of inpatient rehabilitation facilities (IRFs) has been relatively stable since 2013. Most IRFs are distinct units in acute care hospitals; only about one-fifth are freestanding facilities. However, because hospital-based units tend to have fewer beds, they account for only about half of Medicare discharges from IRFs.
- Although the moratorium on new long-term care hospitals (LTCHs) led to a decrease in the number of LTCHs beginning in 2012 (data not shown), the number of LTCHs further declined to 411 in 2017 primarily due to the implementation of a payment policy that reduces payment for discharges not meeting certain criteria.
- The total number of skilled nursing facilities (SNFs) has increased slightly since 2009, and the mix of facilities shifted from hospital-based to freestanding facilities (data not shown). In 2017, hospital-based facilities made up 5 percent of all SNF facilities (data not shown).

**Chart 8-2. Growth in Medicare's fee-for-service post-acute care expenditures has slowed since 2011**



Note: These calendar year-incurred data represent only program spending; they do not include beneficiary copayments.

Source: CMS Office of the Actuary 2018.

- Increases in aggregate fee-for-service (FFS) spending on post-acute care have slowed in part because of expanded enrollment in managed care under Medicare Advantage (Medicare Advantage spending is not included in this chart). Since 2012, growth in FFS post-acute care spending has remained flat.
- FFS spending on inpatient rehabilitation facilities declined between 2004 and 2008, reflecting policies intended to ensure that patients who do not need this intensity of services are treated in less-intensive settings. However, spending on inpatient rehabilitation facilities has increased since 2008.
- FFS spending on skilled nursing facilities increased sharply in 2011, reflecting CMS's adjustment for the implementation of the new case-mix groups (resource utilization groups, version IV) beginning October 2010. Once CMS established that the adjustment it made was too large, it lowered the adjustment, and spending dropped in 2012.

**Chart 8-3. Freestanding SNFs and for-profit SNFs accounted for the majority of facilities, Medicare stays, and Medicare spending**

Type of SNF	Facilities		Medicare-covered stays		Medicare payments (billions)	
	2011	2016	2011	2016	2011	2016
Totals	14,935	15,080	2,455,730	2,310,753	\$28.8	\$26.4
Freestanding	95%	96%	93%	95%	97%	97%
Hospital based	5	4	7	5	3	3
Urban	71	72	81	83	84	85
Rural	29	28	19	17	16	15
For profit	70	70	72	71	76	74
Nonprofit	25	23	25	24	21	21
Government	5	6	3	4	3	4

Note: SNF (skilled nursing facility). Totals may not sum to 100 percent due to rounding and missing values.

Source: MedPAC analysis of the Provider of Services and Medicare Provider Analysis and Review files, 2011 and 2016.

- In 2016, freestanding facilities accounted for 95 percent of stays and 97 percent of Medicare's payments.
- Urban facilities accounted for 72 percent of facilities, 83 percent of stays, and 85 percent of Medicare payments in 2016.
- In 2016, for-profit facilities accounted for 70 percent of facilities and higher shares of stays and Medicare payments (71 percent and 74 percent, respectively).

**Chart 8-4. SNF admissions and stays declined in 2016**

Volume measure	2012	2014	2015	2016	Percent change 2015–2016
Covered admissions per 1,000 FFS beneficiaries	69.0	68.6	68.9	66.4	–3.6%
Covered days per 1,000 FFS beneficiaries	1,893	1,849	1,824	1,706	–6.5
Covered days per admission	27.4	27.0	26.5	25.7	–3.0

Note: SNF (skilled nursing facility), FFS (fee-for-service). Data include 50 states and the District of Columbia. Yearly figures presented in the table are rounded, but the percent-change column was calculated using unrounded data.

Source: Calendar year data from CMS, Office of Information Products and Data Analytics 2017.

- In 2016, 4.2 percent of beneficiaries used SNF services, down slightly from 2011 (data not shown).
- Between 2015 and 2016, SNF admissions per 1,000 FFS beneficiaries decreased 3.6 percent, consistent with the decrease in inpatient hospital use. An acute care hospital stay of three or more days is a prerequisite for Medicare coverage of SNF care.
- During the same period, covered days declined at a faster rate (–6.5 percent), so there were fewer covered days per admission (25.7 days).

**Chart 8-5. Freestanding SNF Medicare margins remained high in 2016**

	2004	2006	2008	2010	2012	2014	2016
All	13.8%	12.8%	16.7%	19.4%	14.1%	12.8%	11.4%
Rural	16.4	13.6	18.1	19.5	13.3	10.9	9.8
Urban	13.3	12.7	16.4	19.4	14.2	13.1	11.7
Nonprofit	4.3	4.0	8.1	11.4	6.4	4.6	2.3
For profit	15.9	14.9	18.7	21.3	16.0	15.1	14.0

Note: SNF (skilled nursing facility).

Source: MedPAC analysis of freestanding SNF cost reports 2004–2016.

- Though lower than in recent years, the Medicare margin for freestanding SNFs in 2016 exceeded 10 percent for the 17th consecutive year (not all years are shown). After reaching over 21 percent in 2011 (not shown), the margins have declined for two reasons: Current law requires market basket increases to be offset by a productivity adjustment, and sequestration began lowering payments in April 2013 by 2 percent on an annualized basis.
- In 2016, on average, urban facilities had higher Medicare margins than rural facilities. For-profit SNFs had considerably higher Medicare margins than nonprofit SNFs, reflecting their larger size, their lower cost growth, and their higher share of the more profitable therapy case-mix groups (the ultra-high and very high groups).
- In 2016, total margins (the margin across all payers and all lines of business) for freestanding facilities remained positive (0.7 percent, data not shown).

**Chart 8-6. Cost and payment differences explain variation in Medicare margins for freestanding SNFs in 2016**

Characteristic	Highest margin quartile (n = 3,263)	Lowest margin quartile (n = 3,262)	Ratio of highest quartile to lowest quartile
<b>Cost measures</b>			
Standardized cost per day	\$266	\$387	0.7
Standardized cost per discharge	\$11,190	\$14,246	0.8
Average daily census (patients)	88	66	1.3
Average length of stay (days)	42	36	1.2
<b>Revenue measures</b>			
Medicare payment per day	\$510	\$441	1.2
Medicare payment per discharge	\$22,472	\$15,940	1.4
Share of days in intensive therapy	87%	79%	1.1
Share of medically complex days	3	4	0.8
Medicare share of facility revenue	24	14	1.7
<b>Patient characteristics</b>			
Case-mix index	1.41	1.32	1.1
Share of dual-eligible beneficiaries	39%	27%	1.4
Share of minority beneficiaries	14	5	2.8
Share of very old beneficiaries	28	33	0.9
Medicaid share of days	65	56	1.2
<b>Facility mix</b>			
Share for profit	88%	57%	N/A
Share urban	80	69	N/A

Note: SNF (skilled nursing facility), N/A (not applicable). Values shown are medians for the quartile. Highest margin quartile SNFs were in the top 25 percent of the distribution of Medicare margins. Lowest margin quartile SNFs were in the bottom 25 percent of the distribution of Medicare margins. "Standardized cost per day" includes Medicare costs adjusted for differences in area wages and the case mix (using the nursing component's relative weights) of Medicare beneficiaries. "Days in intensive therapy" are days classified into ultra-high and very high rehabilitation case-mix groups. "Very old beneficiaries" are 85 years or older. "Medically complex days" are those assigned to clinically complex or special-care case-mix groups. Quartile figures presented in the table are rounded, but the ratio column was calculated using unrounded data.

Source: MedPAC analysis of freestanding SNF cost reports 2016.

- Medicare margins varied widely across freestanding SNFs. One-quarter of SNFs had Medicare margins at or below 0.7 percent, and one-quarter of facilities had Medicare margins at or above 20.2 percent (data not shown).
- High-margin SNFs had lower costs per day (31 percent lower costs than low-margin SNFs), after adjusting for wage and case-mix differences, and higher revenues per day (1.2 times the revenues per day of low-margin SNFs).
- Facilities with the highest Medicare margins had higher case-mix indexes, higher shares of beneficiaries who were dually eligible for Medicare and Medicaid, and higher shares of minority beneficiaries.



**Chart 8-7. Financial performance of relatively efficient SNFs in 2016 reflects a combination of lower cost per day and higher payment per day**

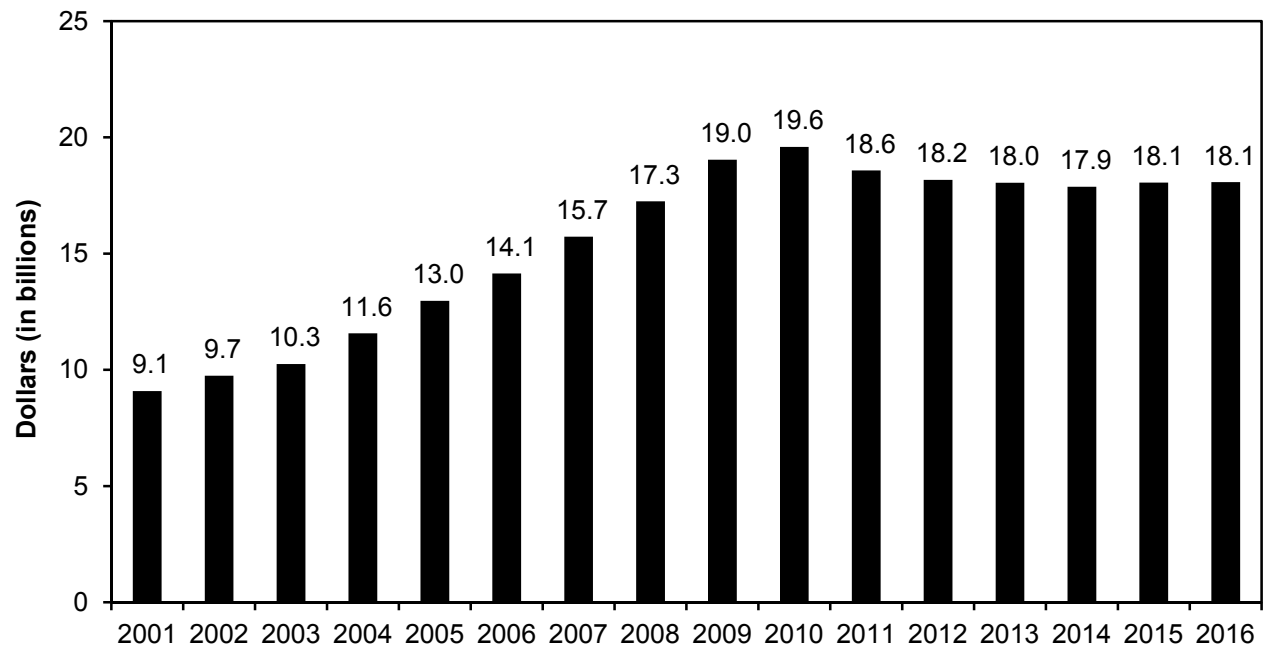
	Relatively efficient SNFs	Other SNFs
<b>Performance in 2016</b>		
Community discharge rate	49.1%	39.1%
Readmission rate	8.9%	10.7%
Standardized cost per day	\$291	\$315
Medicare revenue per day	\$512	\$466
Medicare margin	18.2%	10.6%
Total margin	2.5%	1.1%
Facility case-mix index	1.43	1.36
Medicare average length of stay	32 days	39 days
Occupancy rate	87%	85%
Average daily census	99	80
Share of ultra-high therapy days	65%	54%
Share of medically complex days	4%	4%
Medicaid share of facility days	56%	61%
Share urban	83%	68%
Share for profit	79%	69%

Note: SNF (skilled nursing facility). The analysis includes 11,545 freestanding facilities. SNFs were defined as “relatively efficient” by their cost per day measure (2013–2015) and two quality measures (community discharge and readmission rates) for the same period (2013–2015). Relatively efficient SNFs were those in the best third of the distribution of any one measure and not in the bottom third on any measure in each of three years. Eight percent of SNFs qualified as relatively efficient. Costs per day were standardized for differences in case mix (using the nursing component relative weights) and wages. Rates of risk-adjusted community discharge and readmission for patients with potentially avoidable conditions during the SNF stay are quality measures and were calculated for all facilities with at least 25 stays. “Ultra-high therapy days” include days with at least 720 minutes per week of therapy. “Medically complex days” are those assigned to clinically complex or special-care case-mix groups.

Source: MedPAC analysis of quality measures and Medicare cost report data for 2013–2016.

- “Relatively efficient SNFs” are defined as consistently providing relatively low-cost and high-quality care compared with other SNFs.
- Compared with other SNFs in 2016, relatively efficient SNFs furnished considerably higher quality (higher discharge to community rates and lower readmission rates) and had costs per day that were almost 8 percent lower.
- Compared with other SNFs in 2016, relatively efficient SNFs treated a similar share of medically complex patients, had a higher share of ultra-high therapy days, were larger, had shorter stays, slightly higher occupancy rates, and had higher average daily censuses.

**Chart 8-8. Spending on home health care, 2001–2016**



Source: CMS Office of the Actuary 2017.

- In October 2000, the prospective payment system (PPS) replaced the previous Medicare payment system for home health care, which was a cost-based system that tied payment to the number of visits provided and per beneficiary spending limitations.
- Home health care spending initially rose rapidly under the PPS, by about 10 percent per year between 2001 and 2009. Spending peaked in 2010 and has not changed significantly since 2012.

**Chart 8-9. Trends in the provision of home health care**

	2002	2015	2016	<u>Percent change</u> <u>2015–2016</u>	<u>Cumulative</u> <u>percent change</u> <u>2002–2016</u>
Number of users (in millions)	2.5	3.5	3.5	0.1%	37.5%
Share of FFS beneficiaries who used home health care	7.2%	9.1%	9.0%	–0.8	25.1
Episodes (in millions)	4.1	6.6	6.5	–0.7	59.3
Episodes per home health patient	1.6	1.9	1.9	–0.9	16.0
Visits per home health episode	18.9	17.5	17.5	0.2	–7.4
Visits per home health patient	30.8	33.3	33.1	–0.6	7.4
Average payment per episode	\$2,645	\$2,965	\$2,988	0.8	13.0

Note: FFS (fee-for-service). Yearly figures presented in the table are rounded, but the percent-change columns were calculated using unrounded data. Average payment per episode excludes low-use episodes with fewer than 5 visits.

Source: MedPAC analysis of the home health standard analytic file.

- The number of home health episodes has increased since 2002. The number of beneficiaries using home health care has also increased since 2002, albeit at a lower rate. In 2016, 3.5 million beneficiaries used the home health benefit.
- The number of visits per episode has decreased since 2002. However, this decline was offset by an increase in the average number of episodes per patient, which increased from 1.6 in 2002 to 1.9 in 2016. Beneficiaries received fewer visits in an episode but had more 60-day episodes of care. As a result, the average number of visits increased from about 31 visits per home health user in 2002 to about 33 visits per home health user in 2016.

**Chart 8-10. Most home health episodes are not preceded by hospitalization or PAC stay**

	Number of episodes (in millions)			Percent change	
	2001	2011	2016	2001–2011	2011–2016
Episodes preceded by a hospitalization or PAC stay	1.9	2.2	2.2	14.8%	2.4%
Episodes not preceded by a hospitalization or PAC stay	2.1	4.7	4.4	127.4	–7.7
Total	3.9	6.9	6.5	74.0	–4.6

Note: PAC (post-acute care). “Episodes preceded by a hospitalization or PAC stay” refers to episodes that occurred less than 15 days after a stay in a hospital (including a long-term care hospital), skilled nursing facility, or inpatient rehabilitation facility. “Episodes not preceded by a hospitalization or PAC stay” refers to episodes for which there was no hospitalization or PAC stay in the previous 15 days. Numbers may not sum due to rounding.

Source: 2016 home health standard analytic file, 2016 Medicare Provider and Analysis Review file, and 2016 skilled nursing facility standard analytic file.

- The rise in the average number of episodes per beneficiary since 2001 coincides with a relative shift away from using home health care as a PAC service.
- Between 2001 and 2011, the number of episodes not preceded by a hospitalization or PAC stay increased by about 127 percent compared with an almost 15 percent increase in episodes that were preceded by a hospitalization or PAC stay. During that same period, the share of all episodes not preceded by a hospitalization or PAC stay rose from about 53 percent to 67 percent (data not shown).
- Beneficiaries for whom the majority of home health episodes were preceded by a hospitalization or PAC stay had different characteristics from community-admitted beneficiaries (those who had no prior hospitalization or PAC). Community-admitted home health users were more likely to be dually eligible for Medicare and Medicaid, to have more home health episodes, and to have more episodes with a high share of home health aide services compared with those home health users coming from a hospitalization or other PAC stay (data not shown). Community-admitted users generally had fewer chronic conditions, tended to be older, and were more likely to have dementia or Alzheimer’s disease (data not shown).

**Chart 8-11. Medicare margins for freestanding home health agencies**

	2015	2016	Share of agencies 2016
All	15.6%	15.5%	100%
Geography			
Mostly urban	16.0	15.8	84
Mostly rural	13.2	13.4	17
Type of control			
For profit	16.7	16.6	88
Nonprofit	12.1	12.0	12
Volume quintile (lowest to highest)			
First	7.4	7.9	20
Second	9.6	10.1	20
Third	12.4	11.3	20
Fourth	13.8	14.1	20
Fifth	17.6	17.4	20

Note: Agencies are characterized as urban or rural based on the residence of the majority of their patients. Components may not sum to totals due to rounding.

Source: MedPAC analysis of 2015–2016 Medicare Cost Report files from CMS.

- In 2016, freestanding home health agencies (HHAs) (85 percent of all HHAs) had an aggregate margin of 15.5 percent. HHAs that served mostly urban patients in 2016 had an aggregate margin of 15.8 percent; HHAs that served mostly rural patients had an aggregate margin of 13.4 percent. The 2016 margin is consistent with the historically high margins the home health industry has experienced since the prospective payment system (PPS) was implemented in 2000. The margin from 2001 to 2015 averaged 16.5 percent (data not shown), indicating that most agencies have been paid well in excess of their costs under the PPS.
- For-profit agencies in 2016 had an average margin of 16.6 percent, and nonprofit agencies had an average margin of 12.0 percent.
- Agencies that serve more patients have higher margins. The agencies in the lowest volume quintile in 2015 had an aggregate margin of 7.9 percent, while those in the highest quintile had an aggregate margin of 17.4 percent.

## Chart 8-12. Number of FFS IRF cases increased in 2016

	2008	2013	2015	2016	Average annual percent change 2008–2015	Percent change 2015–2016
Number of IRF cases	356,000	373,000	381,000	391,000	1.0%	2.4%
Cases per 10,000 FFS beneficiaries	100.4	99.1	101.0	101.7	0.0	1.4
Payment per case	\$16,646	\$18,258	\$19,116	\$19,714	2.0	3.1
Average length of stay (in days)	13.3	12.9	12.7	12.7	–0.6	0.0

Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility). Numbers of cases reflect Medicare FFS utilization only. Yearly figures presented in the table are rounded, but the percent-change columns were calculated using unrounded data.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- The number of Medicare FFS IRF cases grew rapidly throughout the 1990s and the early years of the IRF prospective payment system, reaching a peak of about 495,000 in 2004 (data not shown).
- In 2004, CMS renewed its enforcement of the compliance threshold, which requires that 60 percent or more of an IRFs' cases have at least one of 13 specified conditions, and IRF volume began to fall. Between 2004 and 2008, the number of IRF cases fell almost 8 percent per year (data not shown). After 2008, volume began to increase slowly, rising 1 percent per year, on average, from 2008 to 2015. Between 2015 and 2016, volume growth picked up, rising 2.4 percent.
- In 2016, the number of IRF cases per 10,000 FFS beneficiaries was 101.7, up 1.4 percent from the previous year. Relatively few Medicare beneficiaries use IRF services because, to qualify for Medicare coverage, IRF patients must be able to both tolerate and benefit from intensive rehabilitation therapy, which typically consists of at least three hours of therapy a day for at least five days a week. Despite the growth in the number of IRF cases per FFS beneficiary, the aggregate Medicare FFS discharge share in IRFs was stable at about 60 percent of total discharges (data not shown).
- Medicare payments per IRF case rose, on average, 2.0 percent per year between 2008 and 2015. Payments per case grew 3.1 percent between 2015 and 2016.

**Chart 8-13. Most common types of FFS inpatient rehabilitation facility cases, 2016**

Type of case	Share of cases
Stroke	20.1%
Other neurological conditions	13.7
Fracture of the lower extremity	10.8
Debility	10.7
Brain injury	9.9
Other orthopedic conditions	8.2
Cardiac conditions	6.1
Major joint replacement of lower extremity	5.5
Spinal cord injury	4.9
All other	10.1

Note: FFS (fee-for-service). "Other neurological conditions" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of the lower extremity" includes hip, pelvis, and femur fractures. Patients with debility have generalized deconditioning not attributable to other conditions. "Other orthopedic conditions" excludes fractures of the hip, pelvis, and femur and hip and knee replacements. "All other" includes conditions such as amputations, arthritis, and pain syndrome. All Medicare FFS inpatient rehabilitation facility (IRF) cases with valid patient assessment information were included in this analysis. Numbers may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS.

- In 2016, the most frequently occurring case type among FFS beneficiaries admitted to IRFs was stroke, which accounted for 20.1 percent of Medicare FFS cases.
- The number and share of Medicare FFS cases with other neurological conditions has grown significantly. Between 2008 and 2015, the number of IRF discharges with other neurological conditions climbed 76 percent while the total number of Medicare IRF discharges increased 9 percent (data not shown).
- The distribution of case types differs by type of IRF. For example, in 2016, 15 percent of FFS cases in freestanding for-profit IRFs were admitted for rehabilitation following a stroke, compared with 25 percent of cases in hospital-based nonprofit IRFs (data not shown). Likewise, 19 percent of FFS cases in freestanding for-profit IRFs were admitted with other neurological conditions, roughly double the share admitted to hospital-based IRFs (regardless of ownership) (data not shown).

**Chart 8-14. Inpatient rehabilitation facilities' Medicare margins by type of facility, 2006–2016**

	2006	2008	2010	2012	2014	2015	2016
All IRFs	12.5%	9.4%	8.6%	11.2%	12.4%	13.8%	13.0%
Hospital based	9.9	3.9	–0.5	0.7	0.9	1.9	1.2
Freestanding	17.5	18.2	21.4	23.9	25.3	26.7	25.5
Urban	12.8	9.6	9.0	11.6	12.8	14.2	13.2
Rural	10.0	6.9	4.7	6.5	6.2	8.3	9.5
Nonprofit	11.0	5.3	2.1	2.1	2.0	3.5	2.0
For profit	16.3	16.9	19.6	22.9	23.8	24.8	23.9

Note: IRF (inpatient rehabilitation facility).

Source: MedPAC analysis of cost report data from CMS.

- Following a period of steady growth, the aggregate IRF Medicare margin declined in 2016 but remained high at 13.0 percent.
- Margins varied by ownership, with for-profit IRFs having substantially higher margins. At the same time, Medicare margins in freestanding IRFs far exceeded those of hospital-based facilities. Nevertheless, a quarter of hospital-based IRFs had Medicare margins greater than 11 percent (data not shown), indicating that many hospitals can manage their IRF units profitably. Further, despite the comparatively low average margin in hospital-based IRFs, evidence suggests that these units make a positive financial contribution to their parent hospitals. Commission analysis found that, in 2013, the aggregate Medicare margin for acute care hospitals with IRF units was a percentage point higher than the margin of hospitals without IRF units (data not shown).
- Higher unit costs are a major driver of low margins in both hospital-based and nonprofit IRFs. However, the Commission has found that the mix of case types in IRFs is also correlated with profitability. IRFs with the highest margins have a higher share of neurological cases and a lower share of stroke cases. Further, we have observed differences in the types of stroke and neurological cases admitted to high- and low-margin IRFs. Stroke cases in the highest margin IRFs are much less likely to have paralysis than are stroke cases in the lowest margin IRFs. Neurological cases in the highest margin IRFs are much more likely to be neuromuscular disorders (such as amyotrophic lateral sclerosis) than are neurological cases in the lowest margin IRFs (data not shown).
- The Commission has found that high-margin IRFs have patients who are, on average, less severely ill in the acute care hospital than patients admitted to low-margin IRFs. Once admitted to and assessed by the IRF, however, the average patient profile changes, with patients treated in high-margin IRFs appearing to be more disabled than those in low-margin IRFs. This finding suggests the possibility that assessment and coding practices may contribute to greater revenues in some IRFs (data not shown).



**Chart 8-15. Low standardized costs led to high margins for both hospital-based and freestanding IRFs, 2016**

Characteristic	Lowest cost quartile	Highest cost quartile
Median cost per discharge		
All	\$11,490	\$19,873
Hospital based	12,158	19,860
Freestanding	10,854	20,417
Median Medicare margin		
All	28.4%	-22.1%
Hospital based	23.4	-22.1
Freestanding	31.0	-23.1
Median		
Number of beds	48	18
Occupancy rate	72%	53%
Share of facilities in the quartile that are:		
Hospital based	38%	94%
Freestanding	62	6
Nonprofit	31	62
For profit	66	20
Government	3	17
Urban	94	80
Rural	6	20

Note: IRF (inpatient rehabilitation facility). Cost per discharge is standardized for differences in wages across geographic areas, differences in case mix across providers, and differences across providers in the prevalence of high-cost outliers, short-stay outliers, and transfer cases.

Source: MedPAC analysis of Medicare cost report and Medicare Provider Analysis and Review data from CMS.

- IRFs with the lowest standardized costs (those in the lowest cost quartile) had a median standardized cost per discharge that was 42 percent less than that of the IRFs with the highest standardized costs (those in the highest cost quartile).
- IRFs with the lowest costs tended to be larger: The median number of beds was 48 compared with 18 in the highest cost quartile. In addition, IRFs with the lowest costs had a higher median occupancy rate (72 percent vs. 53 percent, respectively). These results suggest that low-cost IRFs benefit from economies of scale.
- Low-cost IRFs were disproportionately freestanding and for profit. Still, 38 percent of IRFs in the lowest cost quartile were hospital based and 31 percent were nonprofit. By contrast, in the highest cost quartile, 94 percent were hospital based and 62 percent were nonprofit.

**Chart 8-16. The top 25 MS–LTC–DRGs made up two-thirds of LTCH discharges in 2016**

MS–LTC –DRG	Description	Discharges	Share of cases
189	Pulmonary edema and respiratory failure	17,539	14.0%
207	Respiratory system diagnosis with ventilator support 96+ hours	14,445	11.5
871	Septicemia without ventilator support 96+ hours with MCC	7,938	6.3
539	Osteomyelitis with MCC	3,418	2.7
592	Skin ulcers with MCC	3,351	2.7
177	Respiratory infections and inflammations with MCC	3,092	2.5
949	Aftercare with CC/MCC	2,960	2.4
208	Respiratory system diagnosis with ventilator support <96 hours	2,790	2.2
682	Renal failure with MCC	2,516	2.0
981	Extensive OR procedure unrelated to principal diagnosis with MCC	2,451	2.0
166	Other respiratory system OR procedures with MCC	1,959	1.6
559	Aftercare, musculoskeletal system and connective tissue with MCC	1,939	1.5
570	Skin debridement with MCC	1,746	1.4
853	Infectious and parasitic diseases with OR procedure with MCC	1,731	1.4
314	Other circulatory system diagnoses with MCC	1,679	1.3
919	Complications of treatment with MCC	1,640	1.3
862	Postoperative and post-traumatic infections with MCC	1,624	1.3
463	Wound debridement and skin graft except hand, for musculo- connective tissue disorders with MCC	1,551	1.2
291	Heart failure and shock with MCC	1,535	1.2
4	Tracheostomy with ventilator support 96+ hours or primary diagnosis except face, mouth, and neck without major OR	1,534	1.2
870	Septicemia with ventilator support 96+ hours	1,503	1.2
193	Simple pneumonia and pleurisy with MCC	1,437	1.1
190	Chronic obstructive pulmonary disease with MCC	1,353	1.1
603	Cellulitis without MCC	1,322	1.1
560	Aftercare, musculoskeletal system and connective tissue with CC	1,316	1.0
	Top 20 MS–LTC–DRGs	84,369	67.2
	Total	125,586	100.0

Note: MS–LTC–DRG (Medicare severity long-term care diagnosis related group), LTCH (long-term care hospital), MCC (major complication or comorbidity), CC (complication or comorbidity), OR (operating room). MS–LTC–DRGs are the case-mix system for LTCHs.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- Cases in LTCHs are concentrated in a relatively small number of MS–LTC–DRGs. In 2016, the top 25 MS–LTC–DRGs accounted for two-thirds of LTCH cases.
- As in 2015, the two most frequent diagnoses in LTCHs in 2016 were pulmonary edema and respiratory failure and a respiratory system diagnosis with ventilator support of more than 96 hours.
- Over 35 percent of all LTCH cases were respiratory conditions—a statistic that has been relatively stable since the 2008 implementation of the MS-LTC-DRGs. Nonprofit LTCHs care for a higher share of beneficiaries with a respiratory-related illness compared with for-profit LTCHs (data not shown).

**Chart 8-17. The number of Medicare LTCH cases and users has decreased each year since peaking in 2012**

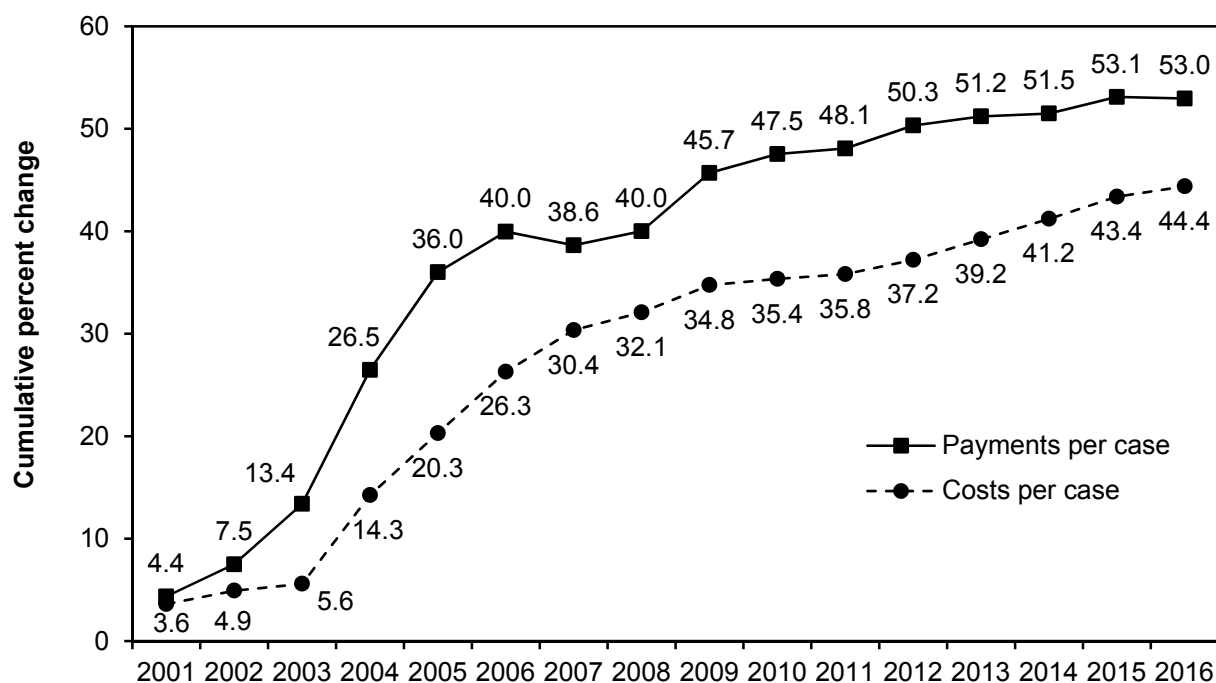
	2012	2013	2014	2015	2016	Average annual change		
						2012– 2014	2014– 2015	2015– 2016
Cases	140,463	137,827	133,984	131,129	125,586	–2.3%	–2.1%	–4.2%
Cases per 10,000 FFS beneficiaries	37.7	36.6	35.4	34.5	32.7	–3.1	–2.6	–5.1
Spending per FFS beneficiary	\$148.8	\$146.6	\$141.7	\$140.3	\$132.9	–2.5	–0.9	–5.3
Payment per case	\$39,493	\$40,070	\$40,015	\$40,719	\$40,656	0.7	1.8	–0.2
Length of stay (in days)	26.2	26.5	26.3	26.6	26.8	0.2	1.0	1.1
Users	123,652	121,532	118,288	116,088	111,171	–2.2	–1.9	–4.2

Note: LTCH (long-term care hospitals), FFS (fee-for-service). Yearly figures presented in the table are rounded, but the average annual changes were calculated using unrounded data.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- Controlling for the number of FFS beneficiaries, the number of LTCH cases declined by about 2 percent annually between 2012 and 2015. The number of cases declined more (–4.2 percent) between 2015 and 2016.
- The average length of stay has increased from 26.2 days in 2012 to 26.8 in 2016, reflecting an average annual growth of 0.6 percent.
- Reflecting the decline in the number of Medicare cases, the number of beneficiaries who had LTCH stays (“users”) also decreased by 4.2 percent from 2015 to 2016.

**Chart 8-18. LTCH cost growth in 2016 was the slowest since 2011**



Note: LTCH (long-term care hospital). Percentage changes are calculated based on consistent two-year cohorts of LTCHs.

Source: MedPAC analysis of Medicare cost report data from CMS.

- After implementation of the prospective payment system on October 1, 2002, costs per case increased rapidly, following a surge in payments per case. Between 2005 and 2007, growth in cost per case began to slow down as regulatory changes to Medicare's payment policies for LTCHs slowed growth in payment per case to an average of 1.3 percent per year.
- For most of the past decade, LTCHs held cost growth below the rate of market basket increases, likely because of ongoing concerns about possible changes to Medicare's payment policies for LTCH services. The slowest growth in average cost per case occurred from 2009 through 2011, when the average cost per case increased less than 1 percent per year.
- From 2012 to 2015, the average cost per case increased by about 2 percent per year. From 2015 to 2016, cost growth slowed to 1 percent, reflecting the lowest growth since 2011.

**Chart 8-19. The aggregate average LTCH Medicare margin fell each year since 2013**

Type of LTCH	Share of discharges in 2016	Medicare margin					
		2011	2012	2013	2014	2015	2016
All	100%	6.9%	7.6%	6.8%	5.2%	4.6%	4.1%
Urban	96	7.1	7.7	7.0	5.2	4.7*	4.3
Rural	4	2.7	3.1	2.5	4.1	2.9*	–0.5
Nonprofit	12	0.3	–0.3	–1.1	–2.2	–6.0	–4.7
For profit	87	8.4	9.3	8.7	7.1	6.5	5.7
Government	2	N/A	N/A	N/A	N/A	N/A	N/A

Note: LTCH (long-term care hospital), N/A (not applicable). Margins for government-owned providers are not shown. They operate in a different context from other providers, so their margins are not necessarily comparable. Totals may not sum to 100 percent due to rounding.

\*CMS adopted new core-based statistical area codes for LTCHs beginning in fiscal year 2015; this change reclassified several facilities as urban that had previously been classified as rural, and therefore the margin across categories of urban and rural facilities between 2014 and 2015 should not be compared.

Source: MedPAC analysis of cost report data from CMS.

- After implementation of the prospective payment system on October 1, 2002, LTCHs' Medicare margins increased rapidly for all LTCH provider types, climbing to 11.9 percent in 2005 (data not shown). Margins then fell as growth in payments per case leveled off.
- From 2009 (data not shown) through 2012, LTCH margins climbed as providers consistently held cost growth below that of payment growth.
- In 2013, the aggregate LTCH margin fell to 6.8 percent, primarily due to policy changes that reduced payments, including the start of a three-year phase-in of a downward adjustment for budget neutrality and the effect of sequestration beginning on April 1, 2013. The aggregate LTCH margin has continued to decline since 2012, falling to 4.1 percent in 2016.
- Financial performance in 2016 varied across LTCHs. The aggregate Medicare margin for for-profit LTCHs (which accounted for 87 percent of all Medicare discharges from LTCHs) decreased from 6.5 percent in 2015 to 5.7 percent in 2016. The aggregate margin for nonprofit LTCHs increased from –6.0 percent in 2014 to –4.7 percent in 2016.

